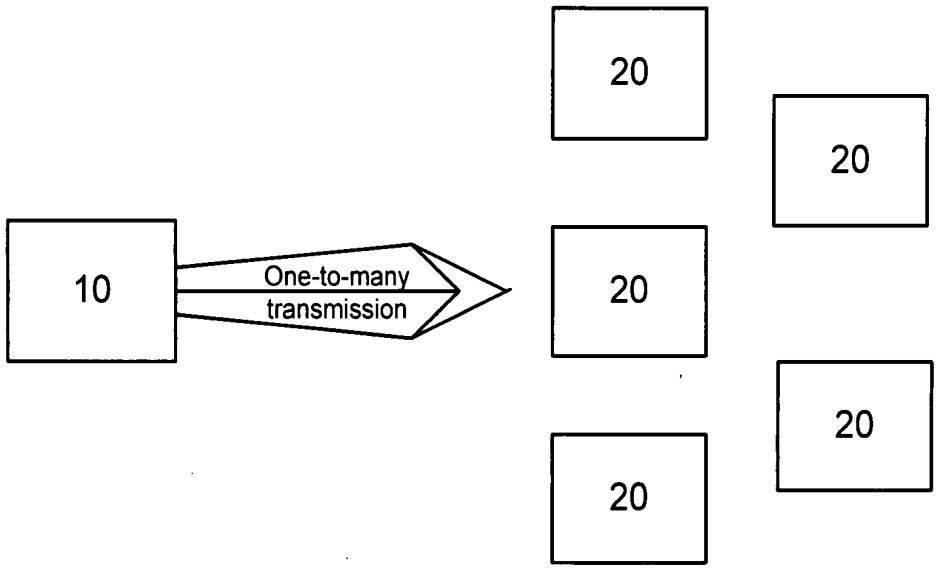

FIGURE 1A

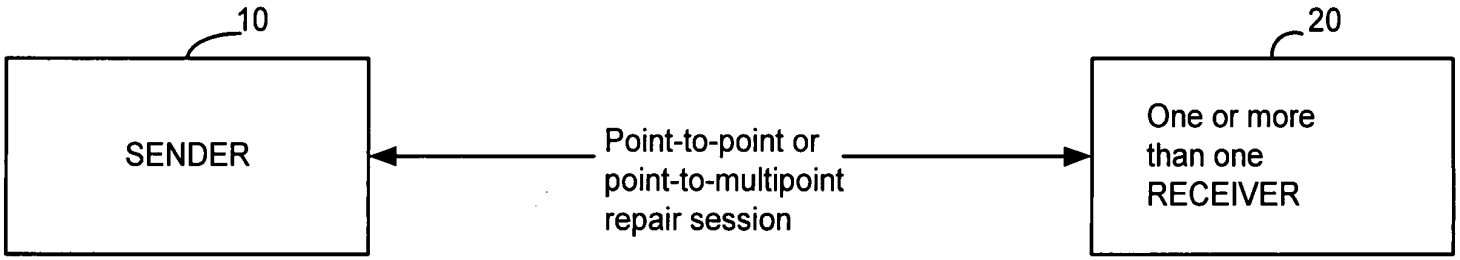

FIGURE 1B

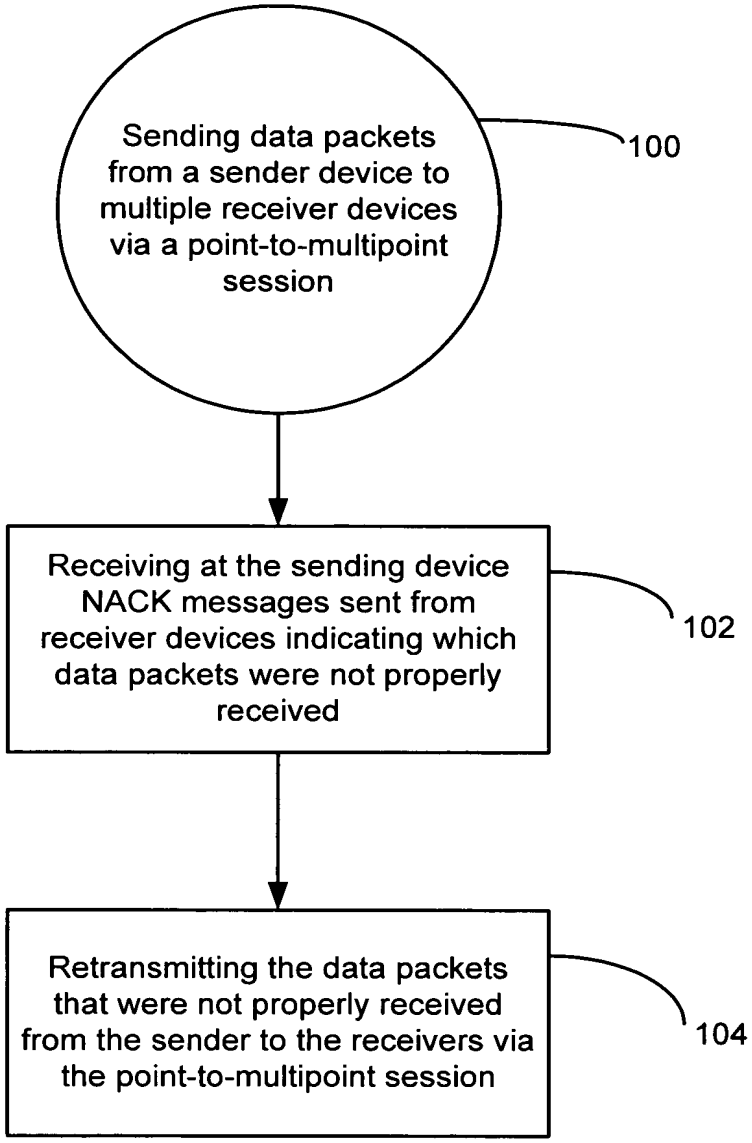
Sending data packets from a sender device to multiple receiver devices via a point-to-multipoint session
100
Receiving at the sending device NACK messages sent from receiver devices indicating which data packets were not properly received
102
Retransmitting the data packets that were not properly received from the sender to the receivers via the point-to-multipoint session
104

FIGURE 2A

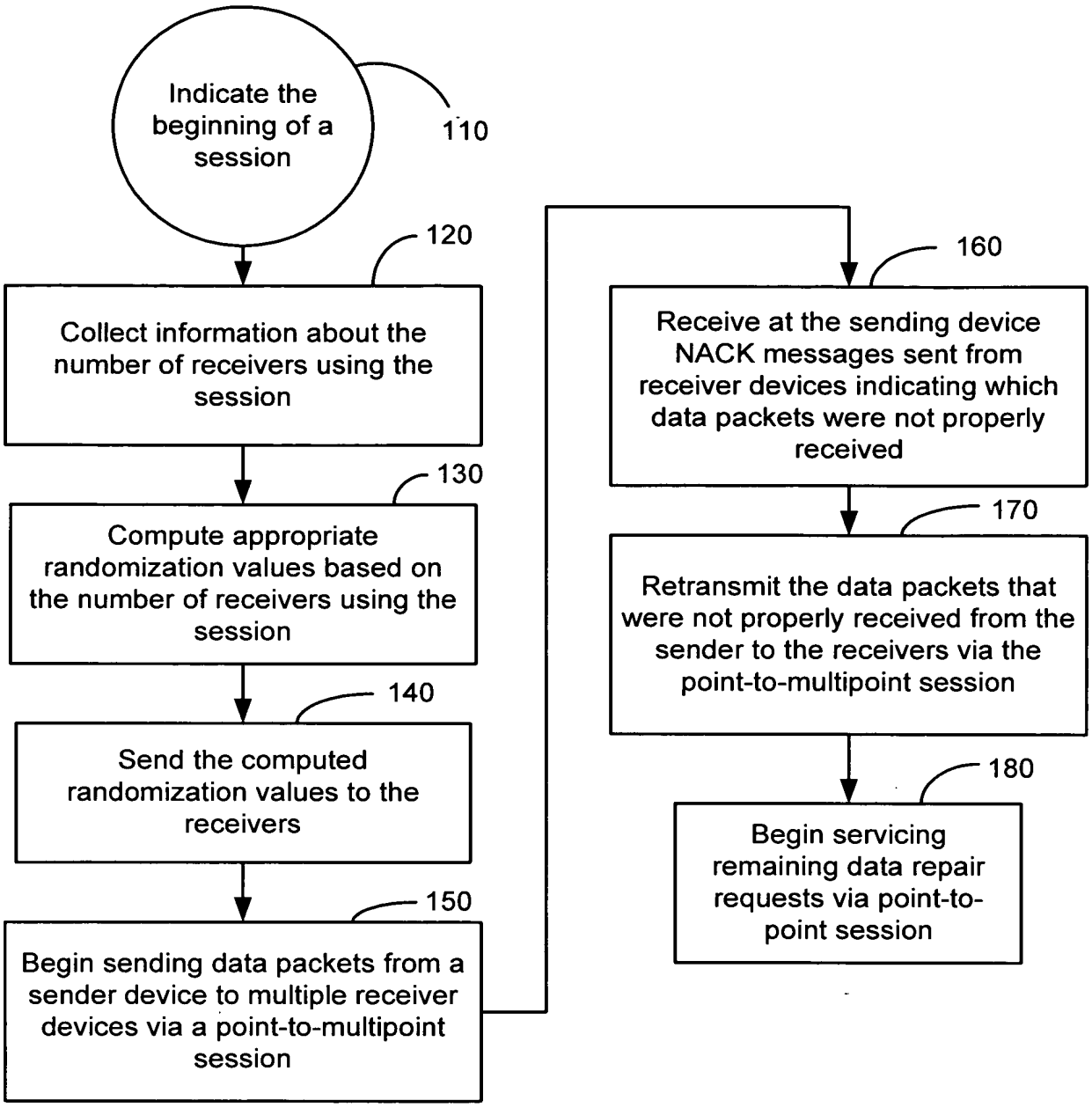
Indicate the beginning of a session
110
120
Collect information about the number of receivers using the session
130
Compute appropriate randomization values based on the number of receivers using the session
140
Send the computed randomization values to the receivers
150
Begin sending data packets from a sender device to multiple receiver devices via a point-to-multipoint session
160
Receive at the sending device NACK messages sent from receiver devices indicating which data packets were not properly received
170
Retransmit the data packets that were not properly received from the sender to the receivers via the point-to-multipoint session
180
Begin servicing remaining data repair requests via point-to-point session

FIGURE 2B

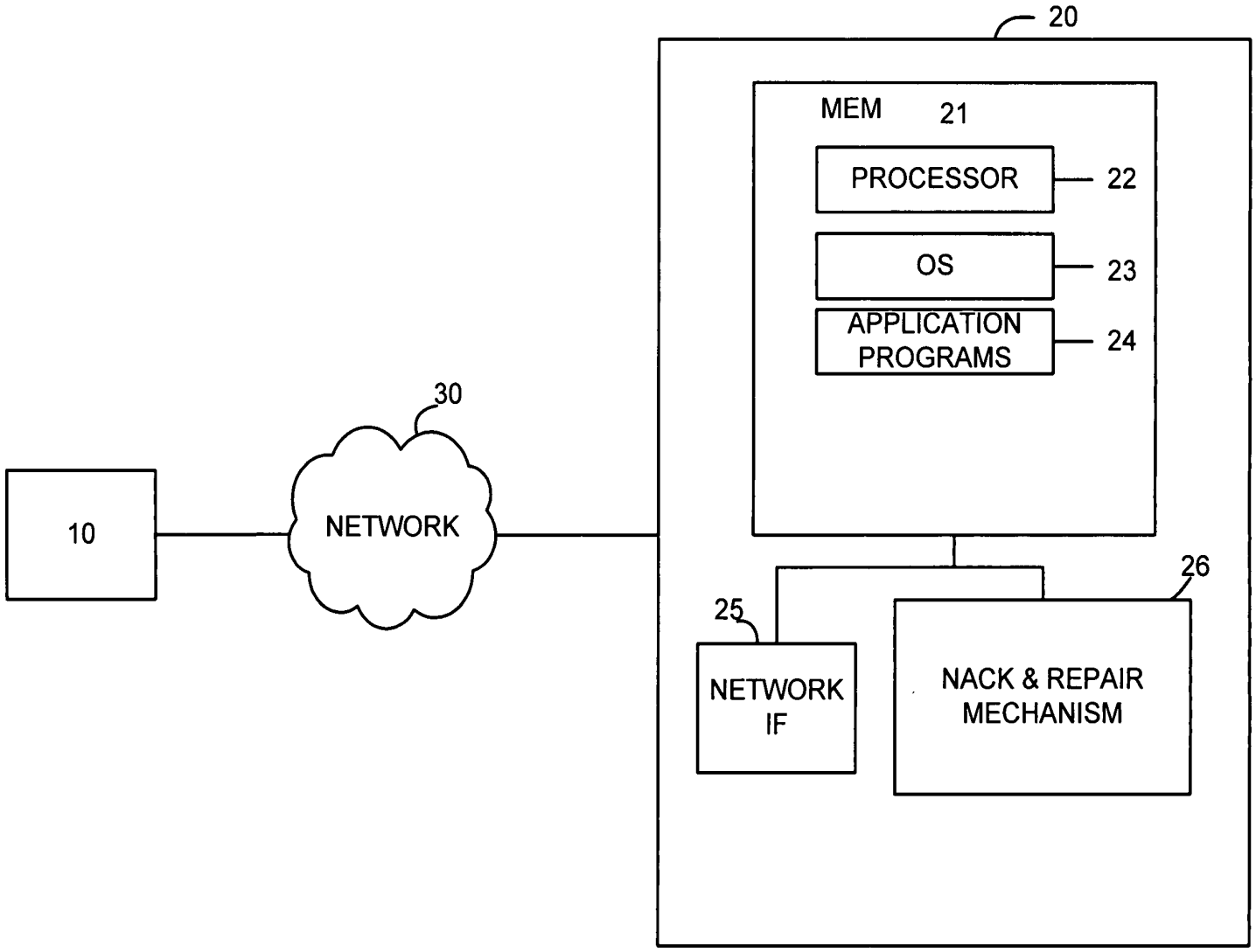
20
MEM
21
PROCESSOR
22
OS
23
APPLICATION PROGRAMS
24
30
10
NETWORK
25
NETWORK IF
26
NACK & REPAIR MECHANISM

FIGURE 3

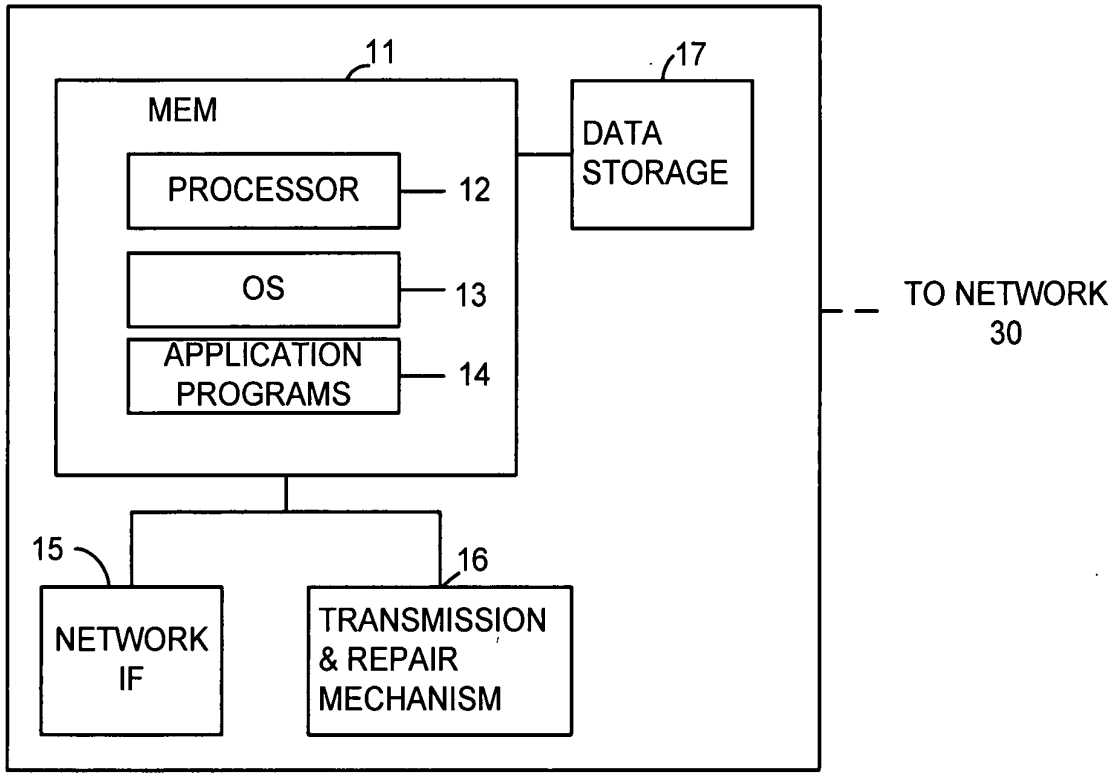
11
17
MEM
PROCESSOR
12
OS
13
APPLICATION PROGRAMS
14
DATA STORAGE
TO NETWORK 30
15
16
NETWORK IF
TRANSMISSION & REPAIR MECHANISM

FIGURE 4